

Outdoor First-Aid Procedures

CARDIOPULMONARY RESUSCITATION (CPR)

SYMPTONS

Cardiopulmonary resuscitation (CPR) involves a combination of mouth-to-mouth rescue breathing and chest compression. CPR keeps oxygenated blood flowing to the brain and other vital organs until appropriate medical treatment can restore a normal heart rhythm.

Before starting CPR, assess the situation:

- Is the person conscious or unconscious? CPR is only performed when a person is unconscious and is not moving or is not breathing normally.
 - Position the person so you can check for breathing and a pulse by laying the victim flat on a firm surface and extending the neck.
 - If the person appears unconscious, tap or shake his or her shoulder and ask loudly, "Are you OK?"
 - If the person does not respond, follow the steps below and get help by dialing 911 or calling for emergency medical assistance. If you cannot leave the scene, have someone else call.
1. **Breathing.** Mouth-to-mouth rescue breathing is the quickest way to get oxygen into a person's lungs.
 2. **Circulation.** Chest compressions replace the heartbeat when it has stopped. Compressions help maintain some blood flow to the brain, lungs and heart. You must perform rescue breathing anytime you perform chest compressions.

To perform CPR:

1. Lay the person flat on a firm surface and extend the neck.
2. Open the victim's mouth and airway by lifting the chin forward.
3. Determine whether the victim is breathing by simultaneously listening for breath sounds, feeling for air motion on your cheek and ear and looking for chest motion.
4. If the victim is not breathing, pinch his or her nostrils closed, make a seal around the mouth and breathe into his or her mouth twice. Give one breath every 5 seconds and completely refill your lungs after each breath.

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5. If there is no pulse, begin chest compressions. Place your hands over the lower part of the breastbone, keep your elbows straight and position your shoulders directly above your hands to make the best use of your weight.

Push down 1 1/2 to 2 inches at a rate of 80 to 100 times a minute. The pushing down and letting up phase of each cycle should be equal in duration. Don't jab down and relax. After 15 compressions, breathe into the victim's mouth twice.

After every four cycles of 15 compressions and two breaths, recheck for a pulse and breathing. Continue the rescue maneuvers as long as there is no pulse or breathing.

To perform CPR on a baby:

1. Cover the mouth and nose with your mouth.
2. Give one breath for every five chest compressions.
3. Compress the chest 1/2 to 1 inch at least 100 times a minute, using only two fingers.

The above is just a brief description of CPR. To learn CPR, take a first-aid training course. Many organizations, such as the Red Cross and the American Heart Association, sponsor such courses.

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CUTS AND SCRAPES

Minor cuts and scrapes usually don't require a trip to the emergency room. Yet proper care is essential to avoid infection or other complications. These guidelines can help you care for simple wounds:

1. **Stop the bleeding.** Minor cuts and scrapes usually stop bleeding on their own. If they don't, apply gentle pressure with a clean cloth or bandage. If the blood spurts or continues to flow after several minutes of pressure, seek emergency medical assistance.
2. **Clean the wound.** Rinse the wound with clear water. Don't use soap — it can irritate the wound. If dirt or debris remain in the wound after washing, use tweezers cleaned with alcohol to remove the particles. If debris remains embedded in the wound after cleaning, see your doctor. Don't attempt to remove particles by yourself.

Thorough wound cleaning reduces the risk of tetanus. To clean the area around the wound, use soap and a washcloth. You can use hydrogen peroxide, iodine or an iodine-containing cleanser, but these substances irritate living cells. Don't apply them directly on the wound.

3. **Apply antibiotic.** After you clean the wound, apply a thin layer of an antibiotic cream or ointment such as Neosporin or Polysporin to help keep the surface moist. The products don't make the wound heal faster, but they can discourage infection and allow your body's healing factors to close the wound more efficiently. Certain ingredients in some ointments can cause a mild rash in some people. If a rash appears, stop using the ointment.
4. **Cover the wound.** Exposure to air speeds healing, but bandages can help keep the wound clean and keep harmful bacteria out. Cover blisters that are draining until a scab forms.
5. **Change the dressing.** Change the dressing at least daily or whenever it becomes wet or dirty. If you're allergic to the adhesive used in most bandages, switch to adhesive-free dressings or sterile gauze and paper tape. These supplies generally are available at pharmacies.
6. **Get stitches.** A wound that cuts deeply through the skin or is gaping or jagged-edged may require stitches. A strip or two of surgical tape may hold a minor cut together, but if you can't easily close the mouth of the wound, see your doctor. Proper closure also minimizes scarring.
7. **Watch for signs of infection.** See your doctor if the wound isn't healing or you notice any redness, drainage, warmth or swelling.
8. **Get a tetanus shot.** Doctors recommend you get a tetanus shot every 10 years. If your wound is deep or dirty and your last shot was more than 5 years ago, your doctor may recommend a booster. You should get the booster within 48 hours of the injury.

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FROSTBITE

Frostbite occurs with prolonged exposure to subfreezing temperatures. The risk increases as the temperature declines or the wind (and wind chill factor) increases.

SYMPTOMS

- Progressive, painful loss of feeling leading to numbness
- White or blue appearance of the skin
- Firmness of the skin to the touch
- Loss of function

TREATMENT

- Do not try to rewarm the affected parts. Gently wrap the affected parts in a blanket, dry clothing, or several layers of newspaper and transport the person to a hospital as soon as possible.
- Do not rub or massage the frostbitten area with anything, particularly not with snow as some home remedies suggest. Rubbing increases the risk of tissue damage. Snow merely adds to the danger of freezing.
- If treatment must be undertaken outside a hospital, bring the person indoors and begin warming the frostbitten parts immediately by immersing in warm water at a temperature of about 104°–108°F (40°–42°C). Rewarming may take 45 minutes to an hour. Successful rewarming leads to progressive return of function, color, and sensations and may result in blistering, which is normal. This process may be very painful; aspirin or acetaminophen may be given. Do not break the blisters.
- Do not expose frostbitten skin to the intense heat of a stove, radiator, open fire, or heating pad.
- If a hot beverage such as coffee or tea is available, offer it if the person is fully awake. Do not allow the person to drink alcoholic beverages.
- Apply dry, sterile gauze for protection.
- During travel to the hospital or indoors avoid refreezing of the frostbitten part.
- Treat hypothermia (see below) before treating frostbite.

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HEAT CRAMPS SYMPTOMS

Cramps in various parts of the body or muscles during or after exercise as a result of salt (electrolyte) and water losses through sweating.

TREATMENT

- Replenish salt and fluids to alleviate cramps. Administer fluids. If possible, give fluids as 1/4 to 1/2 teaspoon of salt dissolved in a quart of cool fruit juice. Commercial sport drinks with a moderate amount of sugar are also acceptable.
- Stretch cramped muscles.

HEAT EXHAUSTION (HEAT PROSTRATION) SYMPTOMS

- Pale, moist skin.
- Body temperature is normal or only moderately elevated (102°F/38.9°C).
- Damp skin.
- Nausea, weakness, light headedness, and possibly fainting without prolonged loss of consciousness.
- Very painful cramps may follow strenuous activity.

TREATMENT

- Move the person to a cool, shady, or air-conditioned place and have her lie down with feet elevated.
- Loosen or remove most clothing.
- Apply cool, wet compresses to head and torso.
- Administer fluids as described in the information about heat cramps in the section "Overexposure."

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HEAT STROKE

Heat stroke is a medical emergency that occurs most often in hot, very humid weather. This type of heat injury occurs often in healthier people such as athletes and military recruits.

SYMPTOMS

- Person feels hot to the touch and skin is red and dry.
- Body's internal cooling mechanism has ceased to function, so sweating may have stopped and body temperature has climbed to 104°F (40°C) or higher.
- Rapid heartbeat.
- Confusion, and agitation or lethargy, stupor, and loss of consciousness.

TREATMENT

- Summon an ambulance and emergency medical help immediately.
- While waiting for the ambulance, move the person indoors to an air-conditioned area or to a shady place.
- Remove clothing, and cool by spraying the person with cool water. Fan the person to evaporate this water and increase heat loss.
- If a thermometer is available, check the person's temperature and stop cooling measures when it comes down to 102°F (38.9°C).

PREVENTING HEAT STROKE

- Exercise commonsense precautions during hot, humid weather. Wear light clothes, drink plenty of fluids, and avoid overexposure to the sun.
- Take a cool bath or shower once or twice daily.
- Seek air-conditioned places for rest.
- Avoid strenuous activity in very hot and humid weather, particularly during the hottest part of the day.
- Use extreme caution in hot weather if you suffer a chronic disease (cardiovascular disease, neurological problems, or dermatological conditions).
- If you regularly take medication, get your doctor's advice about hot-weather activity.

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HYPOTHERMIA

Hypothermia refers to subnormal central body temperature that may be due to overexposure to cold temperatures. The very young, the old, alcohol and drug abusers, and outdoor enthusiasts are particularly vulnerable to this condition. In accidental hypothermia, the body temperature lowers progressively, and in extreme cases death from cardiac arrest may result.

MILD HYPOTHERMIA SYMPTOMS

Shivering, conscious and alert, but may have difficulty speaking or walking. Body temperature is 90 to 95°F (32.2° to 35°C). (Be aware that many household thermometers do not register temperatures below 94°F [34.4°C], so it may be hard to tell what the body temperature is.)

TREATMENT

Wrap person in warm blankets or clothes and remove immediately to a warm shelter. Give warm, nonalcoholic drinks.

SEVERE HYPOTHERMIA SYMPTOMS

- Body temperature below 90°F (32.2°C)
- Person stops shivering
- Altered mental status ranging from lethargy to unconsciousness

TREATMENT

- Check vital signs: Respiration and pulse may be difficult to detect. Check carefully. If they appear completely absent and you are alone, call for help and then begin CPR.
- Take the person to a hospital emergency room immediately. When alone in an isolated area, getting the person to a medical facility is the highest priority.
- If help or a hospital is unavailable, wrap the person in warm blankets and take to a warm shelter. Try to avoid jostling the person when transporting. This may affect heart rhythm.
- Remove wet clothing and wrap the person in warm, dry blankets. Use hot water bottles or another person's body next to the victim to warm the victim.
- Rewarming takes several hours, with some risk of further fall in body temperature as well as shock, so it is always preferable to take the person to a hospital when possible.

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INSECT BITES AND STINGS

SYMPTOMS

Symptoms of an insect bite result from the injection of venom or other agent into your skin. The venom triggers an allergic (immune) reaction. The severity of your reaction depends on your sensitivity to the insect venom or agent.

Most reactions are mild, causing little more than an annoying itching or stinging sensation and mild swelling that disappear within a day or so. A delayed reaction may cause fever, painful joints, hives and swollen glands. You might experience both the immediate and the delayed reactions from the same bite or sting. Only a small percentage of people develop severe reactions to insect venom.

Bees, wasps, hornets, yellow jackets and fire ants are typically the most troublesome insects. Mosquitoes, ticks, biting flies and some spiders can also cause reactions, but these are generally milder.

TREATMENT

For mild reactions:

1. Move to a safe area to avoid more stings.
2. Try to remove the stinger by scraping or brushing it off with a firm edge, such as a credit card. Swab the site with disinfectant.
3. To reduce pain and swelling, apply ice or a cold pack.
4. Apply 0.5 percent or 1 percent hydrocortisone cream, calamine lotion or a baking soda paste to the bite or sting several times a day until your symptoms subside.
5. Take an antihistamine such as diphenhydramine (Benadryl, Tylenol Severe Allergy) or chlorpheniramine maleate (Chlor-Trimeton, Teldrin).

For severe reactions:

Severe reactions may progress rapidly. Dial 911 or call for emergency medical assistance if you experience any of the following signs or symptoms:

- Difficulty breathing
- Swelling of the lips or throat
- Faintness

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INSECT BITES AND STINGS (CONTINUED)

- Confusion
- Rapid heartbeat / Hives / Nausea, cramps and vomiting

While waiting for emergency transportation:

1. Have the person lie down. If unconscious and breathing, lay the person on his or her side to allow drainage from the mouth.
2. If there is no breathing, movement or responses to touch, begin cardiopulmonary resuscitation.
3. Check to see if the person is carrying an allergy kit containing epinephrine. Follow instructions on the kit.

Less severe allergic reactions include mild nausea and intestinal cramps, diarrhea or swelling larger than 2 inches in diameter at the site. See your physician promptly if you experience any of these symptoms.

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SNAKEBITES

SYMPTOMS

Most snakes are not poisonous. A few exceptions include the rattlesnake, coral snake, water moccasin and copperhead. Most poisonous snakes have slit like eyes. Their heads are triangular, with a depression or pit midway between the eyes and nostrils on both sides of the head. Some nonpoisonous snakes, however, also have slit like eyes.

Other characteristics unique to certain poisonous snakes:

- **Rattlesnakes** make a rattling sound by moving the rings at the end of their tail.
- **Water moccasins** have a whitish, cottony lining in their mouth.
- **Coral snakes** have red, yellow and black rings along their length.

To reduce your risk of snakebites, avoid picking up or playing with any snake unless you are properly trained.

TREATMENT

If you're bitten by a snake:

- Don't try to capture the snake.
- Immobilize the arm or leg that was bitten and elevate it.
- Don't cut the wound or attempt to remove the venom.
- Seek medical attention as soon as possible, especially if the area changes color, begins to swell or is painful.

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SPRAIN

SYMPTOMS

Your ligaments are tough, elastic like bands that attach to your bones and hold your joints in place. A sprain describes an injury to a ligament caused by excessive stretching. The ligament can have tears in it or can be completely torn apart.

Sprains occur most often in your ankles, knees or the arches of your feet. Sprained ligaments swell rapidly and are painful. Generally the greater the pain, the more severe the injury. For most minor sprains, you can probably treat the injury yourself.

TREATMENT

Follow the instructions for PRICE:

1. **Protect** the injured limb from further injury by not using the joint. You can do this using anything from splints to crutches.
2. **Rest** the injured limb. But don't avoid all activity. Even with an ankle sprain you can usually still exercise other muscles to prevent deconditioning. For example, you can use an exercise bicycle, working both your arms and the uninjured leg while resting the injured ankle on a peg. That way you still get three-limb exercise to keep up your cardiovascular conditioning.
3. **Ice** the area. Applying a cold pack, slush bath or a compression sleeve filled with cold water are the best ways to limit swelling after an injury. Try to apply ice as soon as possible after the injury. If you use ice, be careful not to use it for too long a period. The ice could cause tissue damage.

4. **Compress** the area using an elastic wrap or bandage.
5. **Elevate** the injured limb above heart level whenever possible to help prevent or limit swelling.

Dial 911 or call for emergency medical assistance if:

- You hear a popping sound when your joint is injured or you cannot use the joint. This may mean the ligament was completely torn apart. On the way to the doctor, apply a cold pack.
- You have a fever and the area is red and hot. You may have an infection.
- You have a severe sprain. Inadequate or delayed treatment may cause long-term joint instability or chronic pain.
- If you are not improving each day after the first 48 hours.

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TICK BITES

SYMPTOMS

Some ticks transmit bacteria that cause illnesses such as Lyme disease or Rocky Mountain spotted fever. Your risk of contracting one of these diseases depends on what part of the United States you live in, how much time you spend in wooded areas and how well you protect yourself.

TREATMENT

If you've been bitten by a tick:

1. Remove the tick promptly and carefully. Use tweezers to grasp the tick by its body and pull gently to remove the whole tick without crushing it.
2. If possible, seal the tick in a plastic bag and keep it in case you later need to see your doctor. Otherwise flush the tick down the toilet or bury it.
3. Wash your hands after handling the tick.

See your doctor if you develop:

- Rash
- Fever
- Muscle aches
- Joint pain and swelling

If possible, bring the tick with you to your doctor's appointment.

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